AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A method comprising:

requesting access to a resource for a first process, the first process having a corresponding first semaphore that does not correspond to a particular resource;

determining whether the resource is being accessed by a second process, the second process having a corresponding second semaphore that does not correspond to a particular resource; and

denying the first process access to the resource if the resource is being accessed by the second process as indicated by a lock on the resource, wherein the lock is indicated at the second semaphore.

2. (Previously Presented) The method of claim 1, further comprising the first process having a corresponding first local priority and the second process having a corresponding second local priority.

3. (Previously Presented) The method of claim 1, further comprising:

granting the first process access to the resource if the resource is not being accessed by the second process as indicated at the second semaphore.

Claims 4-23 (Cancelled)

24. (Currently Amended) A machine-readable medium, the machine-readable medium selected from the group consisting of a floppy diskette, an optical disk, a Compact Disc-Read Only Memory, a magneto-optical disk, a Read Only Memory, a Random Access Memory, an Erasable Programmable Read Only Memory, an Electromagnetic Erasable Programmable Read Only Memory, a magnetic card, an optical card, and a flash memory, the machine-readable medium having stored thereon data representing sets of instructions which, when executed by a machine, cause the machine to:

request access to a resource for a first process, the first process having a corresponding first semaphore that does not correspond to a particular resource;

determine whether the resource is being accessed by a second process, the second process having a corresponding second semaphore that does not correspond to a particular resource; and

deny the first process access to the resource if the resource is being accessed by the second process as indicated by a lock on the resource, wherein the lock is indicated at the second semaphore.

25. (Previously Presented) The machine-readable medium of claim 24, further comprising the first process having a corresponding first local priority and the second process having a corresponding second local priority.

26. (Previously Presented) The machine-readable medium of claim 24, wherein the sets of instruction which, when executed by the machine, further cause the machine to:

grant the first process access to the resource if the resource is not being accessed by the second process as indicated at the second semaphore.

27. (Currently Amended) An apparatus comprising:

[[a central processing unit having]] a processor to execute a plurality of processes including a first process and a second process; and

a machine-readable medium having instructions stored thereon, which when executed cause the processor [[is further]] to

request access to a resource for the first process, the first process having a corresponding first semaphore that is does not have a corresponding resource;

determine whether the resource is being accessed by the second process, the second process having a corresponding second semaphore that does not have a corresponding resource; and

deny the first process access to the resource if the resource is being accessed by the second process as indicated by a lock on the resource, wherein the lock is indicated at the second semaphore.

28. (Previously Presented) The apparatus of claim 27, further comprising the first process having a corresponding first local priority and the second process having a corresponding second local priority.

29. (Previously Presented) The apparatus of claim 27, wherein the processor is further to grant the first process access to the resource if the resource is not being accessed by the second process as indicated at the second semaphore.

Claims 30-32 (Cancelled)

33. (Previously Presented) The method of claim 2, further comprising:

determining if access to the resource is simultaneously being requested by the second process; and

granting access to the resource to one of the first process and the second process having a higher local priority of the first local priority and the second local priority.

34. (Previously Presented) The machine-readable medium of claim 25, wherein the sets of instructions which, when executed by the machine, further cause the machine to:

determine if access to the resource is simultaneously being requested by the second process; and

grant access to the resource to one of the first process and the second process having a higher local priority of the first local priority and the second local priority.

35. (Previously Presented) The apparatus of claim 28, wherein the processor is further to:

determine if access to the resource is simultaneously being requested by the second process; and

grant access to the resource to one of the first process and the second process having a higher local priority of the first local priority and the second local priority.

36. (Currently Amended) A system comprising:

a memory having a plurality of resources being accessed by a plurality of processes, and a plurality of semaphores associated with the plurality of processes, wherein there are less semaphores than resources; and

a processor coupled with the memory, wherein the processor is capable of executing the plurality of processes, the processor is further to

request access to a resource for a first process of the plurality of processes, the first process having a corresponding first semaphore of the plurality of semaphores;

determine whether the resource is being accessed by a second process of the plurality of processes, the second process having a corresponding second semaphore of the plurality of semaphores; and

deny the first process access to the resource if the resource is being accessed by the second process as indicated by a lock on the resource, wherein the lock is indicated at the second semaphore.

37. (Previously Presented) The system of claim 36, further comprising the first process having a corresponding first local priority and the second process having a corresponding second local priority.

38. (Previously Presented) The system of claim 36, wherein the processor is further to grant the first process access to the resource if the resource is not being accessed by the second process as indicated at the second semaphore.

39. (Previously Presented) The system of claim 37, wherein the processor is further to:

determine if access to the resource is simultaneously being requested by the second process; and

grant access to the resource to one of the first process and the second process having a higher local priority of the first local priority and the second local priority.

40. (Currently Amended) A method comprising:

requesting access to a shared resource for a first process having a first corresponding semaphore system having a first priority, wherein the first semaphore system does not correspond to a particular resource;

determining if a second process having a second corresponding semaphore system having a second priority is also requesting access to the shared resource; and

if the second process is also requesting access to the shared resource, then granting access to one of the first and second processes having a higher priority.

41. (Previously Presented) The method of claim 40, wherein the first and second priorities comprise local priorities that are fixed for the respective first and second processes.

42. (Previously Presented) The method of claim 40, wherein the first process has a first wait time and the second process has a second wait time, and wherein granting access to said one of the first and second processes is based at least in part on a comparison of the first and second wait times.

43. (Previously Presented) The method of claim 40, wherein the first priority comprises a first global priority on a global priority queue of a global arbiter, and wherein the second priority comprises a second global priority on the global priority queue of the global arbiter.

44. (Currently Amended) An apparatus comprising:

a plurality of shared resources;

one or more circuits to perform a first process and a second process;

a first semaphore system including a first semaphore corresponding to the first process;

a second semaphore system including a second semaphore corresponding to the second process;

one or more arbiters to arbitrate for access to the plurality of shared resources for the first and second processes based at least in part on information in the first and second semaphore systems,

wherein the apparatus includes less semaphores than shared resources.

45. (Previously Presented) The apparatus of claim 44, wherein the one or more arbiters comprise:

a first local arbiter of the first semaphore system to arbitrate on behalf of the first process; and

a second local arbiter of the second semaphore system to arbitrate on behalf of the second process.

46. (Previously Presented) The apparatus of claim 44, wherein the one or more arbiters comprise a global arbiter.